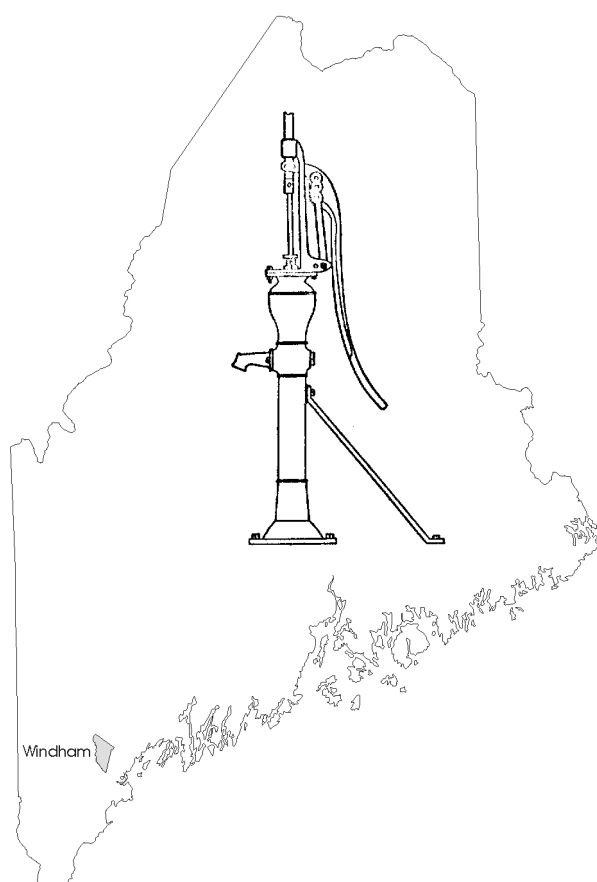




Ground-Water Levels and Water-Quality Data from Monitoring Wells in Windham, Maine Water Years 1997–2001

Open-File Report 02-145



Prepared in cooperation with the
Town of Windham, Maine

U.S. Department of the Interior
U.S. Geological Survey

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By James M. Caldwell

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Prepared in cooperation with the
Town of Windham, Maine

Augusta, Maine
2002

U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY
Charles G. Groat, Director

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For additional information write to:

District Chief
U.S. Geological Survey
26 Ganneston Dr.
Augusta, ME 04330
<http://me.water.usgs.gov>

Copies of this report can be purchased from:

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
inch (in.)	2.54	centimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.59	square kilometer
gallons (gal)	3.785	liter

Temperature in degrees Celsius (°C) may be converted to temperature in degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = 1.8 * (^{\circ}\text{C}) + 32$$

Temperature in degrees Fahrenheit (°F) may be converted to temperature in degrees Celsius (°C) as follows:

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$$

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Altitude: In this report refers to distance above or below sea level.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius (μS/cm at 25 °C).

Concentrations of chemical constituents in water are given in milligrams per liter (mg/L) or micrograms per liter (μg/L).

Ground-Water Levels and Water-Quality Data from Monitoring Wells in Windham, Maine, Water Years 1997–2001

by James M. Caldwell

ABSTRACT

Ongoing data collection in an established well network in Windham, Maine, serves as an indicator of the hydrologic and water-quality conditions in the aquifer. This report presents data collected from 1997 through 2001, including ground-water levels, measurements of water-quality field parameters, and concentrations of nutrients and arsenic.

INTRODUCTION

The Town of Windham is one of Maine's fastest growing communities and one of the largest communities in the State without sewerage. Continued growth poses potential risks to the quality of ground water. A common indicator of ground-water contamination is elevated concentrations of nutrients. The nutrients are typically derived from sewage, fertilizer, and animal or landfill waste. One of the primary recommendations of an earlier ground-water evaluation (Gerber, Inc., 1997) was to monitor ground-water quality.

The USGS and the Town of Windham have had an ongoing cooperative relationship for many years. A network of monitoring wells was established in 1995, as part of an investigation of the sand and gravel aquifer in North Windham (Nichols and Silverman, 1998). A study on the occurrence of methyl *tert*-butyl ether (MTBE) was done in 1998 with the USGS, the Maine Department of Environmental Protection, and the Town of Windham (Nielsen and Peckenham, 2000). Most recently, in 2000, the USGS and the Town of Windham began a 3-year low intensity data-collection program to monitor hydrologic and water-quality conditions in the aquifer. Monitoring the quality of water in the established well network will help determine if there is

degradation of ground-water quality and will help Windham's Planning Committee make informed decisions regarding ground-water quality.

This report presents hourly ground-water level data from a representative well in the study area. It also contains water-quality data collected from 1997 to 2001 in monitoring wells in the network. Specifically, it includes nutrient data from samples collected at 31 observation wells in 1998, at 20 observation wells in September 2000, and at 21 observation wells in August 2001. Samples collected in September 2000 also were analyzed for arsenic, to augment statewide studies underway by the Maine State Department of Health.

DESCRIPTION OF THE STUDY AREA

The Town of Windham lies 12 mi northwest of Portland in Cumberland County, Maine. The study area (fig. 1) is in North Windham, on the North Windham 7.5-minute topographic quadrangle. The population of Windham was 6,593 in 1970, 13,020 in 1990, and 15,600 in 2000 (Maine Register, 2000). Land use consists primarily of commercial and residential areas. Most residential and commercial growth in Windham has been in North Windham. Restaurants, retail development, and light industrial businesses are mainly along U.S. Route 302, which runs north/south through North Windham.

Physiography, Climate, and Hydrology

The study area is bordered by hills to the north and northeast, Sebago Lake to the west, and Little Sebago Lake on the east. The terrain consists primarily of low relief and rolling hills to the south.

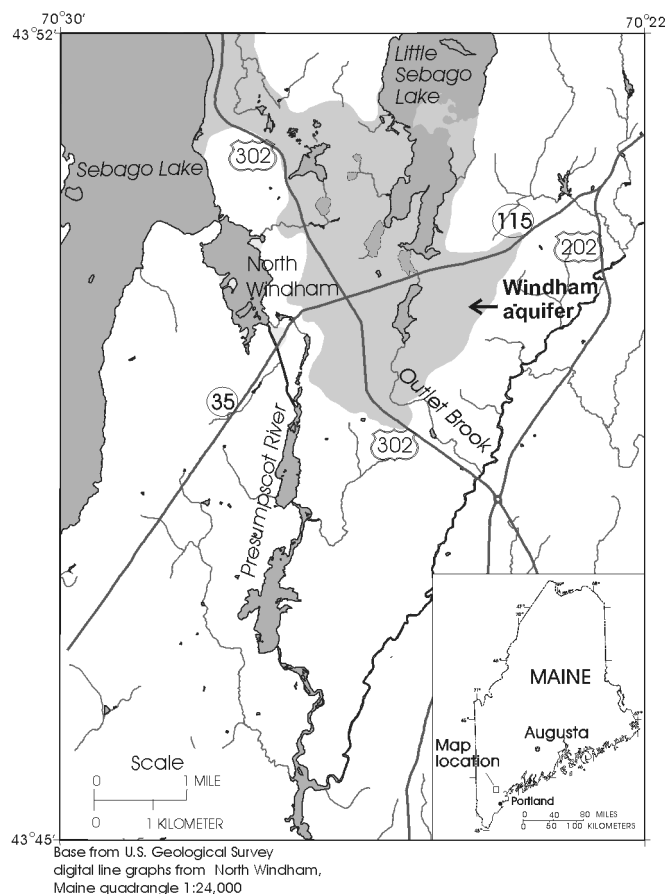


Figure 1. Location of the Windham aquifer study area, North Windham, Maine.

The climate in the Windham area is typified by mild summers and cold winters. Records from a National Weather Service (NWS) station in Lewiston, Maine (14 mi to the northeast), with 114 years of record, indicate an average annual temperature of 46 °F, with mean monthly temperatures ranging from 20 °F in January to 71 °F in July (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1999). The average annual precipitation at the Lewiston station, with 125 years of record, is 45.8 in. and is fairly evenly distributed throughout the year (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1992).

The Windham aquifer is termed a “significant sand and gravel aquifer,” with yields greater than 10 to 50 gal/min to a properly constructed well (Neil, 1999). The aquifer is composed primarily of glaciomarine deltic sands and gravels. A buried esker with high hydraulic conductivity lies in the northern part of the aquifer (Gerber, Inc., 1997). Detailed descriptions of the hydrology of the aquifer can be found in Nielsen and Peckenham (2000) and Gerber, Inc. (1997).

Description of Well Network

The primary identification number for each well in the network is the 15-digit USGS station identification number (table 1). The secondary identification number is the local well number, an alphanumeric number, composed of an abbreviation of the county name and sequential number (fig. 2).

Well depths range from 19 to 132 ft. The screened intervals are mostly 5 or 10 ft, with a few wells having longer screens (20 or 30 ft). Depths of the screened intervals of the wells range from 8 to 130 ft.

RECORDS OF GROUND-WATER LEVELS

Continuous Records

One observation well in the aquifer, CW 1983, is equipped with a downhole recorder that records hourly ground-water levels. Ground-water levels for water years 1996–2001 are shown in table 2. Beginning with water year 2000, ground-water level data also are published in the annual data report series (Stewart and others, 2000). Water levels observed during the period of record with the dates of ground-water sample collected are shown in figure 3.

Table 1. Selected data for wells in the Windham aquifer

[Water-level data modified (values rounded) from Nichols and Silverman (1998). Aquifer codes: IC, ice-contact deposits; GL, glacial sediments, undifferentiated; TL, till; M, marine; D, deltaic deposits. --, no data available]

U.S. Geological Survey station identification number	Local well number	Well depth, in feet	Land surface elevation, in feet above sea level	Aquifer code	Screened interval, in feet below land surface	Screen length, in feet	Water level range, in feet below land surface
435002070255701	CW 1971	22	299.8	IC	17 - 22	5	12 - 16
434934070244101	CW 1975	47.5	273.9	M	32.5 - 37.5	5	21 - 26
435008070253901	CW 1979	109	309.1	D	104 - 109	5	37 - 39
434919070262601	CW 1980	36	307.1	IC	31 - 36	5	14 - 18
435018070250201	CW 1981	57.7	312.9	IC	44 - 49	5	22 - 28
434958070261601	CW 1982	55	297.5	GL	40 - 45	5	15 - 18
435039070261101	CW 1983	37.6	308.0	GL	32 - 37	5	14 - 18
435056070263701	CW 1984	132	295.1	IC	120 - 130	10	3 - 7
435055070263601	CW 1985	25.7	295.1	IC	15.5 - 25.5	10	3 - 7
434910070255601	CW 1987	111	303.5	IC	101 - 111	10	58 - 60
434941070261901	CW 1988	55	290.6	GL	48 - 55	7	1 - 4
434919070262602	CW 1989	19	307.0	GL	14 - 19	5	11 - 18
435002070255601	CW 1990	80	299.9	IC	60 - 80	20	25 - 28
435008070262901	CW 1992	54	305.0	GL	37 - 42	5	10 - 14
435008070262902	CW 1993	27	305.0	GL	22 - 27	5	8 - 11
434945070263401	CW 1994	20	276.7	TL	10 - 15	5	0 - 4
435012070265101	CW 1995	52	307.5	TL	22 - 32	10	11 - 15
435027070264801	CW 1998	35	312.0	GL	30 - 35	5	6 - 20
435026070264101	CW 1999	80	310.8	GL	78 - 80	8	18 - 23
435041070262301	CW 2000	70	319.7	GL	40 - 50	10	26 - 28
435131070261401	CW 2001	127	309.6	GL	97 - 127	30	13 - 16
434946070252301	CW 2003	67	316.2	GL	57 - 62	5	44 - 46
434927070255101	CW 2004	58	315.0	GL	38 - 58	20	49 - 51
435008070253902	CW 2005	48	309.0	GL	38 - 48	10	34 - 36
435040070264501	CW 2007	24	301.4	GL	14 - 24	10	8 - 10
435131070261402	CW 2008	27	309.5	GL	17 - 27	10	13 - 15
435026070264102	CW 2009	22	310.8	GL	12 - 22	10	11 - 14
435018070263201	CW 2010	32	310.7	GL	22 - 32	10	14 - 16
435014070264901	CW 2011	27	310.7	GL	17 - 27	10	12 - 14
435004070262101	CW 2012	27	307.6	GL	17 - 27	10	13 - 16
435136070271201	CW 2019	--	312.8	--	8.1 - 13.1	5	3 - 9

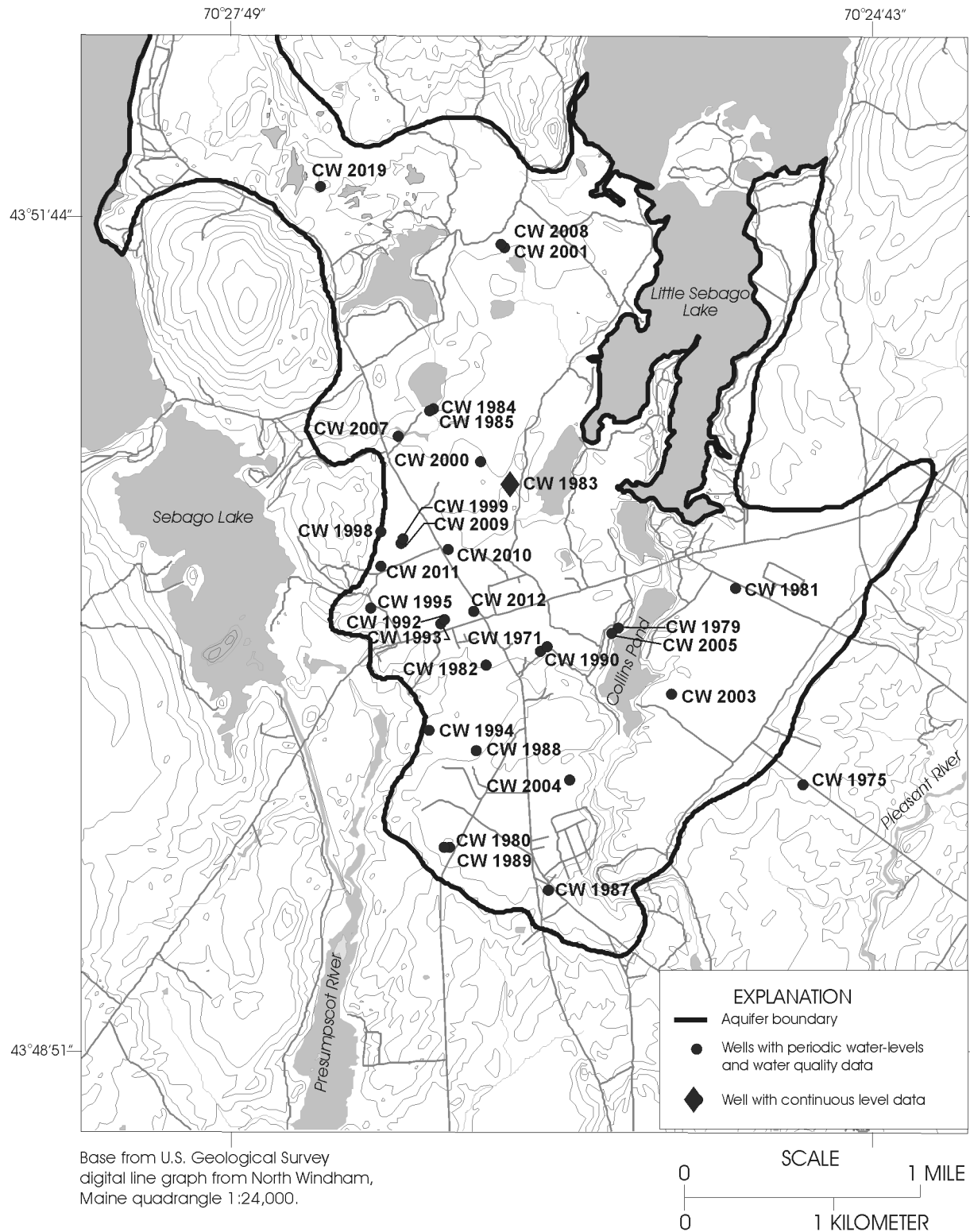


Figure 2. Monitoring wells in the Windham aquifer, Windham, Maine. [Aquifer boundary from Neil, 1998.]

Water levels are reported in feet below land-surface datum. Land-surface datum is a datum plane that is approximately at land surface at each well and does not vary. The highest and lowest water levels for each month are shown on a line below the daily-mean table. Missing records are indicated by dashes in place of the water level.

Periodic Records

Water levels also were measured with a tape while collecting water-quality samples at all network wells; these levels are shown with the water-quality data (table 3). The water-level measurements in this report are given in feet below land-surface datum.

Both flood and drought conditions occurred in the study area during the sampling period. Up to 19.19 in. of rain were recorded in southern Maine from October 20–22, 1996 (Hodgkins and Stewart, 1997). The maximum 24-hour rainfall total (13.32 in.) at the Portland International Jetport during this period exceeded the previous record by 5.49 in. (Records have been kept since 1871.) The recharge response from this event can be seen in CW 1983 (table 2 and fig. 3). In addition, ground-water levels were above normal in the spring and summer of 1998 and were below normal during 1999, with lows in early September just before Hurricane Floyd brought substantial recharge. Ground-water levels were in the normal range during most of 2000. Levels were in the normal and below-normal ranges for most of water year 2001 (Nielsen and others, 1997–99; Stewart and others, 2000).

RECORDS OF GROUND-WATER QUALITY

In 1998, the USGS, in cooperation with the Maine Department of Environmental Protection and the Town of Windham, began a study of the occurrence of MTBE (Nielsen and Peckenham, 2000). Thirty-one monitoring wells in the Windham aquifer were sampled from July 1998 to May 1999. Samples also were analyzed for major nutrients, and those nutrient data are presented in this report (table 3).

In 2000, the USGS, in cooperation with the Town of Windham, began a 3-year low intensity data-collection program to serve as an indicator of the

hydrologic and water-quality conditions in the aquifer. Using the existing network of observation wells, samples were collected in September 2000 at 20 wells and in August 2001 at 21 wells.

A submersible Fultz 300R pump with Teflon-lined tubing was used to collect all samples. The Teflon outflow tube was connected to a Hydrolab multi-parameter monitor with flow-through cell for measuring field values (the use of trade names in USGS reports is for identification purposes only and is not intended as an endorsement). Once the field values stabilized (did not change more than 5 percent for three consecutive 3- to 5-minute measurements) and drawdown was kept to within 20 percent of the standing head, the flow rate was measured and the sample collected. Flow rates generally ranged from 0.026 to 0.12 gal/min (100 mL/min to 400 mL/min). Samples were filtered through a 0.45-micron filter, kept on ice and shipped within 24 hours to the USGS laboratory in Arvada, Colorado, for analysis. After sampling, all the equipment was cleaned with a dilute Liquinox solution and rinsed with a copious amount of distilled water. During the 1998 and 1999 MTBE study, all equipment also was rinsed well with methanol and rinsed again with distilled water because samples were being analyzed for VOCs. The pump and cleaned tubing were packed in plastic sheeting for transport between sites.

USGS National Water Quality Assessment protocols for sampling ground-water wells (Koterba and others, 1995) were followed in sample handling, quality assurance/quality control, sampling equipment, and cleaning methods. The USGS protocols were modified to follow the U.S. Environmental Protection Agency (USEPA) low-flow (minimal drawdown) sampling procedures (Puls and Barcelona, 1995). Three wells did not yield enough water to meet the minimum drawdown requirements. These wells (CW 1980, CW 1981, CW 1999) were pumped dry and sampled the following day.

Specific conductance, dissolved oxygen, pH, temperature and (in 1998) alkalinity were measured in the field. All other constituents were analyzed in the USGS laboratory using methods described by Fishman (1993).

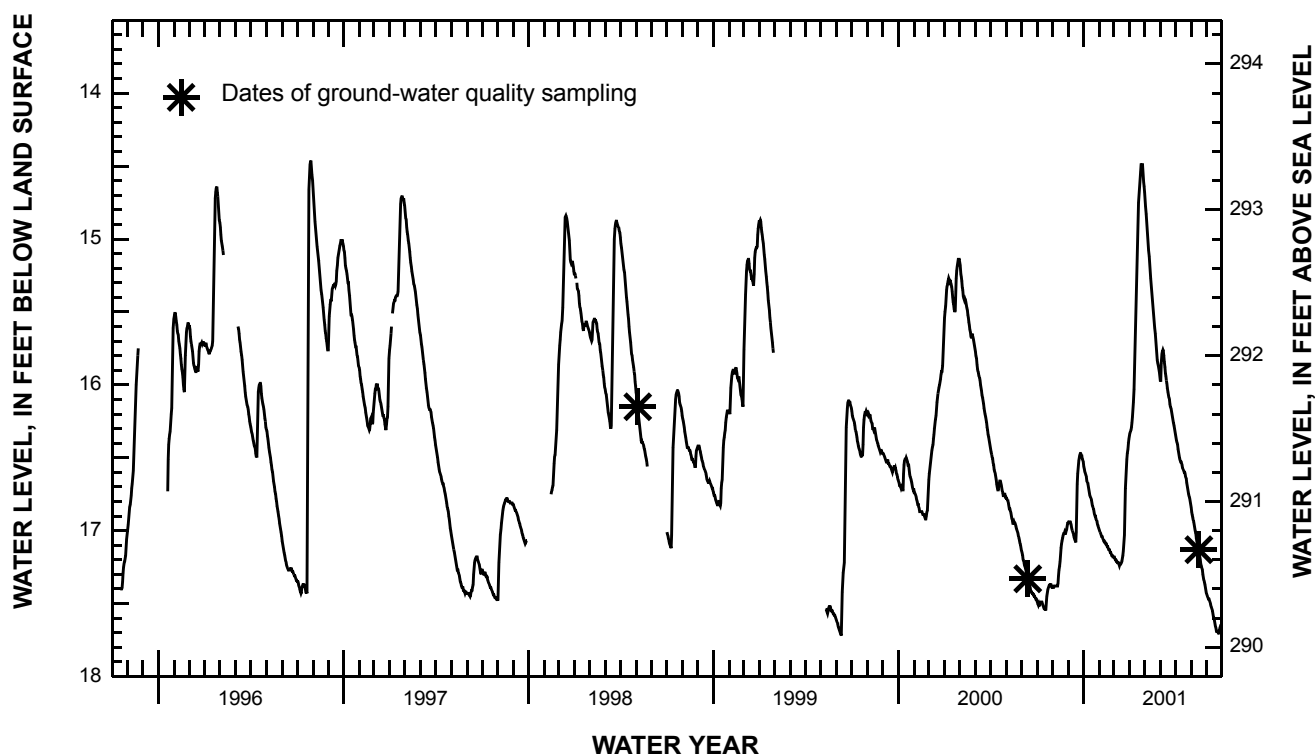


Figure 3. Daily mean water levels in monitoring well CW 1983, October 1, 1995 to September 30, 2001.

To ensure collection of representative samples from the aquifer, samples were pumped from the screened interval of the observation wells. In addition, about 12 percent of the water samples were quality-control samples used to assess the accuracy and precision of the water-quality data collected. The following quality-control samples were collected:

(1) Field blank—Distilled water was passed through the pump tubing that the regular samples contact and filtered through a 0.45-micron filter. These samples were preserved and analyzed along with regular water samples. Results are used to assess equipment cleaning procedures and identify possible contamination introduced by sample handling and transport.

(2) Duplicate—A second sample was collected at a site; it was filtered, preserved, and analyzed along with the regular samples. Results are used to estimate the combined effects of processing and laboratory precision.

Nutrients were not detected in any of the field blank samples. No significant variability was observed for any constituent between the original and duplicate samples.

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Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001

[USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 1996 (OCTOBER 1995 TO SEPTEMBER 1996)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.99	---	---	15.53	15.60	15.73	14.89	---	16.29	16.31	17.07
2	---	16.96	---	---	15.51	15.60	15.73	14.92	---	16.31	16.32	17.09
3	---	16.92	---	---	15.51	15.62	15.72	14.97	---	16.33	16.35	17.11
4	---	16.88	---	---	15.53	15.67	15.72	15.01	---	16.34	16.37	17.13
5	---	16.84	---	---	15.56	15.70	15.74	15.03	---	16.36	16.40	17.15
6	---	16.82	---	---	15.59	15.72	15.75	15.05	15.60	16.38	16.43	17.17
7	---	16.79	---	---	15.63	15.75	15.76	15.08	15.62	16.40	16.46	17.19
8	---	16.76	---	---	15.65	15.77	15.77	15.11	15.65	16.42	16.48	17.21
9	---	16.71	---	---	15.66	15.81	15.78	---	15.69	16.43	16.50	17.22
10	---	16.68	---	---	15.70	15.85	15.79	---	15.71	16.44	16.53	17.24
11	---	16.64	---	---	15.72	15.87	15.77	---	15.74	16.47	16.55	17.25
12	---	16.59	---	---	15.75	15.88	15.77	---	15.77	16.49	16.58	17.26
13	---	16.53	---	---	15.79	15.90	15.76	---	15.80	16.49	16.60	17.27
14	---	16.46	---	---	15.82	15.91	15.75	---	15.83	16.23	16.63	17.27
15	---	16.36	---	---	15.86	15.91	15.74	---	15.87	16.12	16.66	17.27
16	---	16.21	---	---	15.89	15.88	15.73	---	15.91	16.05	16.68	17.27
17	---	16.09	---	---	15.91	15.88	15.70	---	15.94	16.02	16.70	17.26
18	17.39	16.00	---	---	15.95	15.90	15.37	---	15.97	16.00	16.73	17.26
19	17.40	15.92	---	16.73	16.00	15.91	15.11	---	16.01	15.99	16.75	17.26
20	17.40	15.86	---	16.51	16.03	15.86	14.93	---	16.05	15.99	16.78	17.27
21	17.39	15.80	---	16.41	16.05	15.77	14.80	---	16.08	16.01	16.80	17.28
22	17.35	15.75	---	16.37	15.93	15.74	14.72	---	16.10	16.06	16.83	17.28
23	17.29	---	---	16.34	15.80	15.72	14.68	---	16.12	16.09	16.85	17.29
24	17.25	---	---	16.32	15.71	15.72	14.65	---	16.14	16.11	16.87	17.30
25	17.22	---	---	16.26	15.64	15.72	14.64	---	16.15	16.13	16.90	17.31
26	17.21	---	---	16.20	15.61	15.71	14.68	---	16.17	16.15	16.92	17.31
27	17.19	---	---	16.16	15.60	15.72	14.71	---	16.20	16.17	16.95	17.32
28	17.17	---	---	15.91	15.58	15.71	14.77	---	16.22	16.20	16.97	17.33
29	17.11	---	---	15.72	15.58	15.71	14.82	---	16.25	16.23	16.99	17.34
30	17.06	---	---	15.61	---	15.71	14.87	---	16.27	16.25	17.01	17.34
31	17.02	---	---	15.55	---	15.72	---	---	---	16.29	17.04	---
LOW	---	---	---	---	16.05	15.91	15.79	---	---	16.49	17.04	17.34
HIGH	---	---	---	---	15.51	15.60	14.64	---	---	15.99	16.31	17.07

Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001—Continued
 [USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 1997 (OCTOBER 1996 TO SEPTEMBER 1997)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.35	14.66	15.76	15.08	15.90	16.15	15.76	14.77	15.66	16.41	17.03	17.43
2	17.35	14.71	15.65	15.09	15.94	16.10	15.73	14.82	15.69	16.44	17.05	17.43
3	17.36	14.77	15.53	15.13	15.96	16.06	15.69	14.86	15.72	16.46	17.07	17.43
4	17.38	14.83	15.49	15.18	15.99	16.03	15.65	14.87	15.74	16.48	17.09	17.43
5	17.39	14.88	15.45	15.20	16.00	16.03	15.60	14.92	15.77	16.50	17.11	17.44
6	17.40	14.93	15.42	15.22	16.03	16.00	---	14.95	15.80	16.53	17.13	17.44
7	17.42	14.97	15.42	15.24	16.05	16.00	15.51	14.97	15.83	16.55	17.15	17.45
8	17.43	15.01	15.38	15.27	16.08	16.00	15.47	15.01	15.86	16.58	17.17	17.44
9	17.42	15.05	15.34	15.30	16.10	16.03	15.44	15.03	15.89	16.60	17.19	17.42
10	17.39	15.08	15.33	15.30	16.12	16.02	15.43	15.06	15.92	16.61	17.21	17.41
11	17.38	15.11	15.32	15.35	16.14	16.04	15.42	15.09	15.96	16.62	17.23	17.41
12	17.37	15.15	15.32	15.39	16.16	16.07	15.42	15.13	15.99	16.63	17.25	17.39
13	17.37	15.19	15.31	15.43	16.19	16.10	15.40	15.16	16.02	16.65	17.27	17.37
14	17.37	15.23	15.31	15.48	16.21	16.12	15.39	15.19	16.05	16.67	17.27	17.30
15	17.38	15.27	15.32	15.52	16.23	16.13	15.39	15.22	16.08	16.68	17.29	17.26
16	17.39	15.31	15.31	15.52	16.25	16.15	15.39	15.24	16.11	16.68	17.30	17.22
17	17.40	15.35	15.29	15.53	16.28	16.17	15.38	15.26	16.14	16.70	17.31	17.20
18	17.42	15.38	15.22	15.56	16.29	16.19	15.36	15.28	16.16	16.71	17.33	17.19
19	17.42	15.41	15.18	15.59	16.30	16.21	15.18	15.31	16.17	16.73	17.35	17.18
20	17.43	15.44	15.13	15.62	16.31	16.21	15.03	15.32	16.17	16.75	17.36	17.18
21	17.14	15.47	15.11	15.66	16.30	16.23	14.93	15.34	16.18	16.77	17.38	17.18
22	15.49	15.51	15.09	15.69	16.27	16.24	14.83	15.36	16.19	16.79	17.39	17.20
23	14.89	15.55	15.07	15.71	16.23	16.27	14.76	15.39	16.22	16.81	17.39	17.21
24	14.66	15.59	15.05	15.74	16.22	16.29	14.72	15.42	16.24	16.84	17.39	17.22
25	14.55	15.63	15.03	15.74	16.24	16.31	14.71	15.45	16.26	16.85	17.41	17.23
26	14.49	15.65	15.01	15.77	16.27	16.27	14.71	15.48	16.28	16.87	17.41	17.25
27	14.47	15.68	15.01	15.80	16.26	16.23	14.73	15.52	16.30	16.90	17.42	17.27
28	14.47	15.70	15.01	15.81	16.19	16.22	14.73	15.55	16.33	16.92	17.43	17.29
29	14.52	15.73	15.01	15.84	---	16.15	14.72	15.58	16.36	16.95	17.42	17.30
30	14.56	15.76	15.03	15.87	---	16.00	14.75	15.61	16.38	16.98	17.42	17.27
31	14.60	---	15.05	15.88	---	15.82	---	15.64	---	17.00	17.43	---
LOW	17.43	15.76	15.76	15.88	16.31	16.31	---	15.64	16.38	17.00	17.43	17.45
HIGH	14.47	14.66	15.01	15.08	15.90	15.82	---	14.77	15.66	16.41	17.03	17.18

Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001—Continued
 [USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 1998 (OCTOBER 1997 TO SEPTEMBER 1998)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.27	17.48	16.82	---	---	15.86	15.24	15.64	16.03	14.99	16.05	---
2	17.28	17.34	16.83	---	---	15.80	15.24	15.66	16.06	15.03	16.08	---
3	17.29	17.22	16.84	---	---	15.73	15.25	15.68	16.07	15.06	16.11	---
4	17.30	17.15	16.85	---	---	15.69	15.27	15.69	16.10	15.09	---	---
5	17.30	17.09	16.86	---	---	15.64	---	15.70	16.13	15.12	16.18	---
6	17.29	17.03	16.86	---	---	15.61	15.30	15.69	16.16	15.15	16.22	---
7	17.29	16.99	16.87	---	---	15.58	15.34	15.63	16.19	15.18	16.25	---
8	17.31	16.95	16.88	---	---	15.56	15.35	15.57	16.21	15.21	16.29	---
9	17.31	16.92	16.89	---	---	15.47	15.36	15.56	16.23	15.23	16.32	---
10	17.32	16.89	16.90	---	---	15.25	15.39	15.55	16.25	15.27	16.35	---
11	17.32	16.86	16.91	---	---	15.11	15.44	15.55	16.28	15.31	16.38	---
12	17.34	16.84	16.93	---	---	15.01	15.47	15.56	16.30	15.35	16.40	---
13	17.35	16.82	16.94	---	---	14.92	15.48	15.56	16.28	15.40	16.39	---
14	17.36	16.81	16.95	---	16.75	14.85	15.51	15.57	15.93	15.43	16.40	---
15	17.37	16.80	16.97	---	16.73	14.84	15.54	15.58	15.57	15.48	16.41	---
16	17.38	16.79	16.98	---	16.72	14.85	15.57	15.62	15.38	15.52	16.42	---
17	17.39	16.79	16.99	---	16.70	14.86	15.58	15.64	15.21	15.55	16.44	---
18	17.39	16.78	17.00	---	16.69	14.88	15.61	15.65	15.09	15.60	16.45	---
19	17.40	16.78	17.02	---	16.61	14.91	15.63	15.68	15.00	15.64	16.47	---
20	17.41	16.79	17.03	---	16.54	14.94	15.60	15.71	14.93	15.67	16.49	---
21	17.42	16.80	17.05	---	16.49	14.98	15.59	15.72	14.90	15.71	16.51	---
22	17.43	16.80	17.06	---	16.48	15.01	15.59	15.76	14.88	15.75	16.53	---
23	17.44	16.80	17.07	---	16.44	15.08	15.59	15.78	14.87	15.79	16.56	---
24	17.44	16.80	17.08	---	16.39	15.14	15.57	15.81	14.89	15.80	---	---
25	17.45	16.81	17.09	---	16.31	15.16	15.57	15.84	14.90	15.83	---	---
26	17.46	16.81	17.08	---	16.17	15.17	15.58	15.87	14.91	15.85	---	---
27	17.46	16.81	17.07	---	16.07	15.16	15.60	15.90	14.92	15.88	---	---
28	17.46	16.81	17.07	---	15.97	15.15	15.61	15.93	14.93	15.91	---	---
29	17.47	16.81	---	---	---	15.17	15.62	15.95	14.95	15.93	---	---
30	17.47	16.82	---	---	---	15.19	15.63	15.99	14.96	15.98	---	---
31	17.47	---	---	---	---	15.22	---	16.02	---	16.01	---	---
LOW	17.47	17.48	---	---	---	15.86	---	16.02	16.30	16.01	---	---
HIGH	17.27	16.78	---	---	---	14.84	---	15.55	14.87	14.99	---	---

Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001—Continued
 [USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 1999 (OCTOBER 1998 TO SEPTEMBER 1999)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.01	16.23	16.42	16.74	16.19	15.95	14.88	---	---	---	---	17.62
2	17.03	16.25	16.42	16.76	16.20	15.76	14.88	---	---	---	---	17.63
3	17.04	16.27	16.42	16.76	16.12	15.69	14.87	---	---	---	---	17.64
4	17.06	16.29	16.43	16.77	16.02	15.56	m14.88	---	---	---	---	17.66
5	17.07	16.32	16.45	16.79	15.98	15.38	14.92	---	---	---	---	17.67
6	17.09	16.34	16.46	16.80	15.94	15.29	14.95	---	---	---	---	17.68
7	17.10	16.36	16.48	16.81	15.91	15.22	14.97	---	---	---	---	17.69
8	17.11	16.39	16.50	16.82	15.90	15.18	15.00	---	---	---	---	17.70
9	17.12	16.41	16.52	16.83	15.90	15.15	15.03	---	---	---	---	17.71
10	17.03	16.43	16.53	16.81	15.90	15.14	15.07	---	---	---	m17.54	17.72
11	16.71	16.43	16.54	16.80	15.92	15.14	15.11	---	---	---	17.54	17.54
12	16.54	16.43	16.56	16.80	15.92	15.17	15.14	---	---	---	17.55	17.42
13	16.43	16.44	16.57	16.82	15.89	15.21	15.18	---	---	---	17.56	17.35
14	16.36	16.45	16.58	16.83	15.88	15.22	15.22	---	---	---	17.57	17.29
15	16.29	16.45	16.59	16.81	15.90	15.22	15.26	---	---	---	17.55	17.25
16	16.21	16.46	16.60	16.71	15.92	15.25	15.30	---	---	---	17.53	17.22
17	16.15	16.48	16.61	16.67	15.95	15.28	15.33	---	---	---	17.52	16.91
18	16.10	16.49	16.63	16.65	15.96	15.27	15.37	---	---	---	17.52	16.58
19	16.07	16.51	16.65	16.53	15.95	15.29	15.42	---	---	---	17.52	16.41
20	16.05	16.51	16.66	16.43	15.95	15.30	15.45	---	---	---	17.53	16.29
21	16.04	16.52	16.67	16.38	15.98	15.32	15.49	---	---	---	17.55	16.22
22	16.04	16.53	16.67	16.36	16.01	15.24	15.54	---	---	---	17.55	16.16
23	16.05	16.53	16.67	16.33	16.04	15.13	15.57	---	---	---	17.55	16.12
24	16.06	16.54	16.66	16.31	16.07	15.09	15.61	---	---	---	17.56	16.11
25	16.08	16.56	16.67	16.26	16.08	15.07	15.64	---	---	---	17.57	16.11
26	16.12	16.56	16.68	16.22	16.10	15.06	15.67	---	---	---	17.57	16.12
27	16.14	16.49	16.69	16.20	16.13	15.06	15.71	---	---	---	17.58	16.12
28	16.15	16.45	16.70	16.18	16.15	15.05	15.75	---	---	---	17.58	16.14
29	16.16	16.44	16.71	16.18	---	14.97	m15.78	---	---	---	17.59	16.15
30	16.18	16.43	16.71	16.18	---	14.93	---	---	---	---	17.60	16.16
31	16.21	---	16.73	16.19	---	14.90	---	---	---	---	17.61	---
LOW	17.12	16.56	16.73	16.83	16.20	15.95	---	---	---	---	---	17.72
HIGH	16.04	16.23	16.42	16.18	15.88	14.90	---	---	---	---	---	16.11

Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001—Continued
[USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 2000 (OCTOBER 1999 TO SEPTEMBER 2000)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.18	16.20	16.47	16.66	16.73	16.65	15.54	15.16	15.77	16.44	16.78	17.15
2	16.21	16.21	16.47	16.67	16.74	16.61	15.50	15.18	15.80	16.46	16.78	17.17
3	16.23	16.20	16.48	16.69	16.75	16.57	15.46	15.24	15.82	16.48	16.79	17.20
4	16.24	16.21	16.49	16.69	16.76	16.54	15.41	15.26	15.86	16.50	16.80	17.21
5	16.25	16.21	16.50	16.70	16.77	16.51	15.35	15.29	15.89	16.51	16.81	17.22
6	16.26	16.21	16.51	16.71	16.79	16.48	15.32	15.33	15.91	16.54	16.83	17.24
7	16.28	16.23	16.52	16.70	16.80	16.45	15.31	15.35	15.92	16.55	16.85	17.25
8	16.31	16.25	16.53	16.71	16.82	16.43	15.29	15.39	15.94	16.58	16.85	17.26
9	16.32	16.26	16.53	16.72	16.82	16.41	15.27	15.41	15.95	16.60	16.87	17.28
10	16.34	16.27	16.52	16.72	16.84	16.37	15.28	15.42	15.97	16.61	16.88	17.30
11	16.36	16.30	16.52	16.61	16.85	16.34	15.29	15.41	16.00	16.63	16.90	17.32
12	16.39	16.30	16.54	16.55	16.87	16.30	15.28	15.42	16.02	16.65	16.92	17.33
13	16.40	16.31	16.54	16.52	16.87	16.27	15.30	15.43	16.04	16.68	16.93	17.35
14	16.42	16.30	16.55	16.51	16.87	16.24	15.31	15.45	16.07	16.70	16.95	17.36
15	16.44	16.30	16.56	16.51	16.87	16.21	15.33	15.47	16.09	16.72	16.95	17.37
16	16.45	16.32	16.56	16.50	16.87	16.17	15.36	15.49	16.11	16.72	16.94	17.38
17	16.46	16.34	16.57	16.51	16.88	16.12	15.40	15.52	16.13	16.69	16.95	17.39
18	16.48	16.36	16.58	16.52	16.89	16.09	15.43	15.54	16.16	16.68	16.95	17.41
19	16.49	16.38	16.59	16.53	16.89	16.06	15.45	15.57	16.18	16.66	16.96	17.42
20	16.49	16.39	16.60	16.55	16.89	16.04	15.48	15.59	16.20	16.66	16.97	17.42
21	16.48	16.40	16.58	16.55	16.90	16.02	15.50	15.62	16.22	16.67	16.99	17.43
22	16.48	16.42	16.57	16.58	16.91	16.00	15.49	15.64	16.24	16.69	17.00	17.43
23	16.41	16.43	16.56	16.61	16.92	15.98	15.36	15.67	16.26	16.71	17.01	17.44
24	16.29	16.44	16.56	16.63	16.92	15.96	15.27	15.68	16.29	16.73	17.02	17.44
25	16.24	16.45	16.58	16.64	16.90	15.93	15.22	15.65	16.31	16.74	17.04	17.45
26	16.21	16.46	16.57	16.65	16.87	15.91	15.19	15.66	16.34	16.76	17.05	17.45
27	16.19	16.45	16.59	16.67	16.86	15.91	15.16	15.67	16.36	16.76	17.07	17.46
28	16.19	16.45	16.61	16.69	16.79	15.87	15.14	15.69	16.38	16.75	17.09	17.47
29	16.18	16.46	16.62	16.71	16.71	15.76	15.14	15.71	16.40	16.75	17.10	17.47
30	16.19	16.47	16.63	16.72	---	15.67	15.14	15.73	16.42	16.77	17.12	17.48
31	16.18	---	16.65	16.71	---	15.60	---	15.75	---	16.77	17.14	---
LOW	16.49	16.47	16.65	16.72	16.92	16.65	15.54	15.75	16.42	16.77	17.14	17.48
HIGH	16.18	16.20	16.47	16.50	16.71	15.60	15.14	15.16	15.77	16.44	16.78	17.15
WTR YR 2000 HIGH 15.14 LOW 17.48												

Table 2. Water-level data for monitoring well CW 1983, water years 1996–2001—Continued
 [USGS identifier - 435039070261101; ---, no data; m, manual measurement]

WATER YEAR 2001 (OCTOBER 2000 TO SEPTEMBER 2001)												
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.49	17.39	16.95	16.56	17.00	17.18	16.35	14.68	15.97	16.34	16.84	17.44
2	17.50	17.39	16.94	16.58	17.01	17.18	16.33	14.73	15.97	16.36	16.87	17.45
3	17.51	17.38	16.94	16.60	17.02	17.19	16.32	14.78	15.85	16.38	16.89	17.46
4	17.50	17.38	16.94	16.61	17.03	17.20	16.31	14.83	15.79	16.40	16.91	17.47
5	17.51	17.38	16.94	16.62	17.04	17.20	16.29	14.88	15.77	16.41	16.93	17.47
6	17.51	17.38	16.95	16.63	17.04	17.21	16.26	14.94	15.76	16.44	16.94	17.48
7	17.50	17.38	16.96	16.66	17.05	17.21	16.22	14.99	15.77	16.46	16.96	17.49
8	17.49	17.38	16.98	16.67	17.06	17.22	16.17	15.04	15.80	16.48	16.98	17.50
9	17.49	17.38	17.00	16.68	17.07	17.22	16.12	15.08	15.84	16.50	17.00	17.52
10	17.49	17.38	17.01	16.70	17.07	17.22	16.03	15.12	15.88	16.52	17.02	17.53
11	17.50	17.36	17.02	16.72	17.08	17.23	15.90	15.17	15.92	16.53	17.05	17.54
12	17.51	17.31	17.03	16.74	17.08	17.24	15.78	15.22	15.94	16.53	17.07	17.55
13	17.52	17.27	17.05	16.76	17.09	17.23	15.60	15.27	15.97	16.54	17.09	17.57
14	17.53	17.24	17.06	16.77	17.09	17.23	15.41	15.31	15.99	16.55	17.10	17.59
15	17.53	17.21	17.07	16.78	17.10	17.23	15.23	15.35	16.02	16.57	17.12	17.60
16	17.54	17.16	17.08	16.79	17.11	17.22	15.07	15.40	16.05	16.58	17.14	17.62
17	17.54	17.12	17.01	16.81	17.11	17.21	14.93	15.44	16.07	16.59	17.16	17.64
18	17.54	17.09	16.80	16.83	17.12	17.19	14.82	15.48	16.09	16.60	17.18	17.66
19	17.50	17.07	16.68	16.84	17.13	17.17	14.75	15.52	16.10	16.60	17.20	17.67
20	17.45	17.05	16.61	16.85	17.13	17.14	14.70	15.57	16.13	16.61	17.23	17.69
21	17.42	17.03	16.56	16.87	17.14	17.09	14.64	15.61	16.15	16.63	17.24	17.69
22	17.40	17.02	16.52	16.89	17.15	17.03	14.58	15.65	16.16	16.64	17.26	17.69
23	17.39	17.02	16.50	16.90	17.15	16.83	14.54	15.69	16.18	16.67	17.27	17.70
24	17.38	17.01	16.48	16.90	17.16	16.71	14.49	15.74	16.20	16.69	17.30	17.70
25	17.38	17.02	16.47	16.92	17.17	16.64	14.49	15.78	16.22	16.71	17.32	17.71
26	17.37	17.02	16.47	16.93	17.17	16.57	14.49	15.83	16.24	16.73	17.34	17.68
27	17.37	17.00	16.48	16.94	17.18	16.51	14.49	15.85	16.26	16.75	17.35	17.66
28	17.37	16.99	16.49	16.96	17.18	16.47	14.55	15.87	16.28	16.77	17.37	17.65
29	17.38	16.97	16.51	16.97	---	16.44	14.61	15.89	16.30	16.78	17.39	17.65
30	17.39	16.95	16.52	16.98	---	16.40	14.64	15.91	16.32	16.80	17.41	17.66
31	17.39	---	16.53	16.99	---	16.37	---	15.94	---	16.82	17.43	---
LOW	17.54	17.39	17.08	16.99	17.18	17.24	16.35	15.94	16.32	16.82	17.43	17.71
HIGH	17.37	16.95	16.47	16.56	17.00	16.37	14.49	14.68	15.76	16.34	16.84	17.44
WTR YR 2001 HIGH 14.49 LOW 17.71												

Table 3. Water-quality data from the Windham aquifer, Windham, Maine, 1998–2001

[--, no data available; <, less than; E, estimated value]

STATION NUMBER	LOCAL ID	DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
435002070255701	CW 1971	07-21-98	1630	11.71	753	9.5	5.4	52	18.3	.040	<.10
435002070255701	CW 1971	09-07-00	1015	15.09	764	5.8	5.7	37	12.7	<.020	--
435002070255701	CW 1971	08-14-01	1320	15.09	750	5.2	5.4	19	12.6	<.040	--
434934070244101	CW 1975	07-31-98	1200	22.86	760	8.7	8.6	108	19.8	.043	<.10
435008070253901	CW 1979	08-05-98	1025	37.60	760	3.4	6.6	263	15.3	.047	<.10
435008070253901	CW 1979	09-06-00	1520	38.30	769	6.5	6.7	285	9.8	<.020	--
435008070253901	CW 1979	08-21-01	1400	38.30	749	6.2	6.3	350	11.4	<.040	--
434919070262601	CW 1980	07-30-98	1030	14.67	752	10.5	6.0	152	21.3	.030	<.10
434919070262601	CW 1980	09-06-00	1010	16.99	766	10.8	6.1	137	12.4	<.020	--
434919070262601	CW 1980	08-14-01	1100	17.48	754	8.1	5.9	119	14.6	<.040	--
435018070250201	CW 1981	08-06-98	1320	24.77	760	4.8	5.6	262	15.1	.043	<.10
434958070261601	CW 1982	08-06-98	1040	15.69	760	7.8	7.8	169	19.2	.043	<.10
435039070261101	CW 1983	08-04-98	1425	16.17	--	11.0	6.5	90	19.6	.050	<.10
435039070261101	CW 1983	09-12-00	0925	17.31	756	5.9	6.4	92	12.8	<.020	--
435039070261101	CW 1983	08-16-01	0930	17.13	757	4.5	6.2	75	10.4	E.035	--
435056070263701	CW 1984	09-02-98	1115	4.86	752	5.6	6.5	146	19.3	.049	<.10
435056070263701	CW 1984	08-15-01	1025	3.89	754	5.4	6.4	145	9.5	<.040	--
435055070263601	CW 1985	07-23-98	1035	4.14	748	.6	5.9	66	25.8	.042	.13
435055070263601	CW 1985	09-05-00	0945	3.94	764	.2	5.9	77	10.8	<.020	--
435055070263601	CW 1985	09-12-00	1140	3.96	757	2.1	6.0	79	14.2	<.020	--
435055070263601	CW 1985	08-15-01	1200	4.04	754	.4	5.8	60	11.4	<.040	--
434910070255601	CW 1987	09-03-98	1020	58.35	752	1.1	7.5	225	13.4	.036	<.10
434910070255601	CW 1987	09-08-00	1425	59.02	754	2.7	7.2	197	16.3	<.020	--
434910070255601	CW 1987	08-22-01	1430	59.06	749	.4	7.6	229	12.0	<.040	--
434941070261901	CW 1988	09-01-98	1345	2.15	754	2.9	5.5	145	14.4	.021	<.10
434919070262602	CW 1989	07-30-98	1255	11.49	752	10.9	5.6	109	20.9	.037	<.10
435002070255601	CW 1990	07-28-98	1405	25.72	751	6.1	8.8	185	23.0	.045	<.10
435002070255601	CW 1990	09-07-00	1125	27.41	764	.1	7.2	287	12.9	<.020	--
435002070255601	CW 1990	08-14-01	1415	27.51	750	.4	7.0	312	14.1	E.030	--
435008070262901	CW 1992	07-22-98	1310	10.82	748	7.3	5.8	39	17.5	.023	<.10
435008070262901	CW 1992	09-05-00	1255	13.27	764	7.6	5.5	75	10.7	<.020	--
435008070262901	CW 1992	08-13-01	1230	13.41	752	6.1	5.4	63	15.3	<.040	--
435008070262902	CW 1993	07-22-98	1510	8.02	748	9.0	5.8	40	22.3	.032	<.10
435008070262902	CW 1993	09-05-00	1150	10.30	764	7.4	5.5	84	10.7	<.020	--
435008070262902	CW 1993	08-13-01	1320	10.23	752	7.3	5.3	48	10.5	<.040	--
434945070263401	CW 1994	08-31-98	1430	1.36	754	5.8	6.3	252	22.5	<.020	<.10
435012070265101	CW 1995	08-31-98	1120	13.26	754	4.8	5.7	204	14.7	<.020	<.10
435027070264801	CW 1998	07-29-98	1620	13.03	747	9.6	5.9	43	22.6	<.020	<.10
435026070264101	CW 1999	07-21-98	1030	21.73	753	1.6	7.9	136	20.7	.346	.34
435026070264101	CW 1999	09-11-00	0840	22.82	760	1.0	8.3	112	12.9	<.020	--
435026070264101	CW 1999	08-14-01	0945	22.62	753	1.1	8.1	102	12.8	E.026	--

Table 3. Water-quality data from the Windham aquifer, Windham, Maine, 1998–2001—Continued

[--, no data available; < , less than; E, estimated value]

STATION	NUMBER	LOCAL ID	DATE	TIME	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
435002070255701	CW 1971	07-21-98	1630	.288	<.010	--	--	--	
435002070255701	CW 1971	09-07-00	1015	.108	<.010	.018	.014	<.9	
435002070255701	CW 1971	08-14-01	1320	.269	<.006	.012	<.020	--	
434934070244101	CW 1975	07-31-98	1200	.068	<.010	--	--	--	
435008070253901	CW 1979	08-05-98	1025	3.06	<.010	--	--	--	
435008070253901	CW 1979	09-06-00	1520	.586	<.010	E.004	<.010	<.9	
435008070253901	CW 1979	08-21-01	1400	2.67	<.006	<.006	<.020	--	
434919070262601	CW 1980	07-30-98	1030	6.43	<.010	--	--	--	
434919070262601	CW 1980	09-06-00	1010	6.25	<.010	E.005	<.010	<.9	
434919070262601	CW 1980	08-14-01	1100	4.84	<.006	E.004	<.020	--	
435018070250201	CW 1981	08-06-98	1320	2.29	.010	--	--	--	
434958070261601	CW 1982	08-06-98	1040	<.050	<.010	--	--	--	
435039070261101	CW 1983	08-04-98	1425	.484	<.010	--	--	--	
435039070261101	CW 1983	09-12-00	0925	.435	<.010	E.004	<.010	<.9	
435039070261101	CW 1983	08-16-01	0930	.469	<.006	<.006	<.020	--	
435056070263701	CW 1984	09-02-98	1115	1.13	<.010	--	--	--	
435056070263701	CW 1984	08-15-01	1025	1.18	<.006	<.006	<.020	--	
435055070263601	CW 1985	07-23-98	1035	<.050	<.010	--	--	--	
435055070263601	CW 1985	09-05-00	0945	<.050	<.010	<.006	<.010	<.9	
435055070263601	CW 1985	09-12-00	1140	<.050	<.010	<.006	<.010	<.9	
435055070263601	CW 1985	08-15-01	1200	<.050	<.006	<.006	<.020	--	
434910070255601	CW 1987	09-03-98	1020	.488	.012	--	--	--	
434910070255601	CW 1987	09-08-00	1425	<.050	<.010	<.006	<.010	1.6	
434910070255601	CW 1987	08-22-01	1430	.057	<.006	<.006	<.020	--	
434941070261901	CW 1988	09-01-98	1345	.859	<.010	--	--	--	
434919070262602	CW 1989	07-30-98	1255	4.16	<.010	--	--	--	
435002070255601	CW 1990	07-28-98	1405	.055	<.010	--	--	--	
435002070255601	CW 1990	09-07-00	1125	<.050	<.010	E.003	<.010	5.0	
435002070255601	CW 1990	08-14-01	1415	E.028	<.006	<.006	<.020	--	
435008070262901	CW 1992	07-22-98	1310	.398	<.010	--	--	--	
435008070262901	CW 1992	09-05-00	1255	1.39	<.010	<.006	<.010	<.9	
435008070262901	CW 1992	08-13-01	1230	1.40	<.006	<.006	<.020	--	
435008070262902	CW 1993	07-22-98	1510	.685	<.010	--	--	--	
435008070262902	CW 1993	09-05-00	1150	1.50	<.010	<.006	<.010	<.9	
435008070262902	CW 1993	08-13-01	1320	1.43	<.006	<.006	<.020	--	
434945070263401	CW 1994	08-31-98	1430	.994	<.010	--	--	--	
435012070265101	CW 1995	08-31-98	1120	3.76	<.010	--	--	--	
435027070264801	CW 1998	07-29-98	1620	.426	<.010	--	--	--	
435026070264101	CW 1999	07-21-98	1030	.169	<.010	--	--	--	
435026070264101	CW 1999	09-11-00	0840	.151	<.010	.046	.037	2.8	
435026070264101	CW 1999	08-14-01	0945	.156	<.006	.041	.034	--	

Table 3. Water-quality data from the Windham aquifer, Windham, Maine, 1998–2001—Continued

[--, no data available; < , less than; E, estimated value]

STATION NUMBER	LOCAL ID	DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
435041070262301	CW 2000	07-22-98	0940	26.83	748	2.1	6.1	562	17.6	.028	.23
435041070262301	CW 2000	09-06-00	1135	27.92	769	.3	6.4	604	11.8	<.020	--
435041070262301	CW 2000	08-15-01	0840	27.76	755	.5	6.3	566	11.9	<.040	--
435131070261401	CW 2001	08-10-98	1155	14.54	754	.8	8.7	309	14.9	.055	<.10
435131070261401	CW 2001	09-11-00	1125	14.93	760	.2	8.8	318	10.3	.024	--
435131070261401	CW 2001	08-15-01	1350	15.02	755	.4	8.5	343	12.0	<.040	--
434946070252301	CW 2003	08-10-98	1505	44.70	752	3.6	6.4	146	18.1	.055	<.10
434946070252301	CW 2003	09-07-00	1450	45.68	765	2.8	6.6	122	16.4	<.020	--
434946070252301	CW 2003	08-21-01	1530	45.81	750	3.6	6.1	105	14.3	<.040	--
434927070255101	CW 2004	07-29-98	1055	49.14	747	10.1	5.7	103	18.4	<.020	<.10
434927070255101	CW 2004	09-05-00	1410	50.51	764	8.7	5.4	114	14.1	<.020	--
434927070255101	CW 2004	08-22-01	0900	50.83	754	8.8	5.4	151	16.7	<.040	--
435008070253902	CW 2005	08-05-98	1245	34.55	760	10.3	5.7	164	18.1	.045	<.10
435008070253902	CW 2005	09-06-00	1345	36.18	765	9.3	5.6	184	13.4	<.020	--
435008070253902	CW 2005	08-21-01	1300	36.26	749	9.5	5.3	257	14.5	<.040	--
435040070264501	CW 2007	07-30-98	1540	9.39	753	9.6	5.4	328	17.5	.037	<.10
435040070264501	CW 2007	09-11-00	1415	9.97	757	9.5	5.7	346	14.9	<.020	--
435131070261402	CW 2008	08-10-98	0940	13.35	754	9.8	5.6	36	13.6	.058	<.10
435131070261402	CW 2008	09-11-00	1020	13.57	756	10.5	5.4	109	11.7	<.020	--
435131070261402	CW 2008	08-15-01	1445	13.55	755	6.1	5.4	13	12.3	<.040	--
435026070264102	CW 2009	07-20-98	1430	11.40	750	10.8	5.9	52	15.4	.036	<.10
435026070264102	CW 2009	09-08-00	1040	14.25	756	5.1	5.4	221	14.2	.822	--
435026070264102	CW 2009	08-14-01	0850	13.81	753	4.5	5.2	295	13.6	.223	--
435018070263201	CW 2010	07-28-98	1110	14.29	750	9.8	5.7	87	19.5	.031	<.10
435018070263201	CW 2010	09-07-00	0900	16.38	764	7.5	5.7	191	12.8	<.020	--
435018070263201	CW 2010	08-22-01	1025	16.27	751	7.3	5.4	220	14.6	<.040	--
435014070264901	CW 2011	07-21-98	1400	11.58	753	9.8	5.6	38	17.2	.041	<.10
435014070264901	CW 2011	09-06-00	0900	13.99	769	11.2	5.6	49	11.0	<.020	--
435014070264901	CW 2011	08-13-01	1415	13.84	752	10.6	5.4	59	15.7	E.024	--
435004070262101	CW 2012	09-03-98	1400	14.58	752	8.7	6.1	465	18.8	.036	.11
435004070262101	CW 2012	08-22-01	1235	16.07	751	1.0	6.5	487	14.6	<.040	--
435136070271201	CW 2019	09-01-98	1010	5.54	754	6.7	6.2	58	14.0	.021	<.10

Table 3. Water-quality data from the Windham aquifer, Windham, Maine, 1998–2001—Continued
[–, no data available; < , less than; E, estimated value]

STATION	NUMBER	LOCAL ID	DATE	TIME	NITRO- GEN, NO2+NO3	NITRO- GEN, NITRITE	PHOS- PHORUS	PHOS- PHORUS	ARSENIC
					DIS- SOLVED (MG/L AS N) (00631)	DIS- SOLVED (MG/L AS N) (00613)	DIS- SOLVED (MG/L AS P) (00666)	DIS- SOLVED (MG/L AS P) (00671)	DIS- SOLVED (UG/L AS AS) (01000)
435041070262301	CW 2000	07-22-98	0940	9.56	.136	--	--	--	
435041070262301	CW 2000	09-06-00	1135	26.6	.153	.008	<.010	<.9	
435041070262301	CW 2000	08-15-01	0840	14.0	.037	.009	<.020	--	
435131070261401	CW 2001	08-10-98	1155	<.050	<.010	--	--	--	
435131070261401	CW 2001	09-11-00	1125	<.050	<.010	.337	.323	3.6	
435131070261401	CW 2001	08-15-01	1350	E.024	E.003	.440	.435	--	
434946070252301	CW 2003	08-10-98	1505	1.97	<.010	--	--	--	
434946070252301	CW 2003	09-07-00	1450	.964	<.010	<.006	<.010	.9	
434946070252301	CW 2003	08-21-01	1530	1.43	<.006	<.006	<.020	--	
434927070255101	CW 2004	07-29-98	1055	2.77	<.010	--	--	--	
434927070255101	CW 2004	09-05-00	1410	3.71	<.010	.008	<.010	<.9	
434927070255101	CW 2004	08-22-01	0900	3.71	<.006	E.006	E.010	--	
435008070253902	CW 2005	08-05-98	1245	4.39	<.010	--	--	--	
435008070253902	CW 2005	09-06-00	1345	1.24	<.010	.006	<.010	<.9	
435008070253902	CW 2005	08-21-01	1300	3.96	<.006	E.004	<.020	--	
435040070264501	CW 2007	07-30-98	1540	1.35	<.010	--	--	--	
435040070264501	CW 2007	09-11-00	1415	.601	<.010	E.003	<.010	<.9	
435131070261402	CW 2008	08-10-98	0940	.332	<.010	--	--	--	
435131070261402	CW 2008	09-11-00	1020	1.82	<.010	<.006	<.010	<.9	
435131070261402	CW 2008	08-15-01	1445	.505	<.006	E.003	<.020	--	
435026070264102	CW 2009	07-20-98	1430	1.67	<.010	--	--	--	
435026070264102	CW 2009	09-08-00	1040	13.5	<.010	<.006	<.010	<.9	
435026070264102	CW 2009	08-14-01	0850	13.6	.015	.011	<.020	--	
435018070263201	CW 2010	07-28-98	1110	.848	<.010	--	--	--	
435018070263201	CW 2010	09-07-00	0900	.932	<.010	E.003	<.010	<.9	
435018070263201	CW 2010	08-22-01	1025	1.27	<.006	<.006	<.020	--	
435014070264901	CW 2011	07-21-98	1400	.280	<.010	--	--	--	
435014070264901	CW 2011	09-06-00	0900	.134	<.010	<.006	<.010	<.9	
435014070264901	CW 2011	08-13-01	1415	.410	<.006	<.006	<.020	--	
435004070262101	CW 2012	09-03-98	1400	4.33	.014	--	--	--	
435004070262101	CW 2012	08-22-01	1235	4.57	<.006	E.004	<.020	--	
435136070271201	CW 2019	09-01-98	1010	<.050	<.010	--	--	--	

District Chief
Maine District
U.S. Geological Survey
Water Resources Division
26 Ganneston Drive
Augusta, Maine 04330

